

GenCore version 4.5  
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OM protein - protein search, using sw model

Run on: July 18, 2001, 15:53:41 ; Search time 22.87 Seconds

(without alignments)  
2025.218 Million cell updates/sec

Title: US-09-587-111-5  
Perfect score: 4004  
Sequence: 1 MTPSSSPVRLFTLDGGGE.....EDEDGASENNYVYQLQSN 764

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 412676 seqs, 60623988 residues

Total number of hits satisfying chosen parameters: 412676

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database :

A\_Geneseq\_0601:\*

- 1: /SIDSB/gcgdata/geneseq/geneseq/AA1980.DAT:\*
- 2: /SIDSB/gcgdata/geneseq/geneseq/AA1981.DAT:\*
- 3: /SIDSB/gcgdata/geneseq/geneseq/AA1982.DAT:\*
- 4: /SIDSB/gcgdata/geneseq/geneseq/AA1983.DAT:\*
- 5: /SIDSB/gcgdata/geneseq/geneseq/AA1984.DAT:\*
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- 11: /SIDSB/gcgdata/geneseq/geneseq/AA1990.DAT:\*
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- 14: /SIDSB/gcgdata/geneseq/geneseq/AA1993.DAT:\*
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- 19: /SIDSB/gcgdata/geneseq/geneseq/AA1998.DAT:\*
- 20: /SIDSB/gcgdata/geneseq/geneseq/AA1999.DAT:\*
- 21: /SIDSB/gcgdata/geneseq/geneseq/AA2000.DAT:\*
- 22: /SIDSB/gcgdata/geneseq/geneseq/AA2001.DAT:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	4004	100.0	764	20	AAV29469 Human vanilloid re
2	4004	100.0	764	20	AAV06559 Human vanilloid re
3	4004	100.0	764	21	AAV97358 Human VR-2 protein
4	4004	100.0	764	22	AAV83562 Human vanilloid re
5	3988.5	99.6	763	20	AAV24308 Human vanilloid re
6	3988.5	99.6	763	20	AAV29471 Human vanilloid re
7	3939	98.4	764	21	AAV84834 Amino acid sequenc
8	3258	81.4	630	21	AAV97364 Human VR-2 (altern
9	3051.5	76.2	761	20	AAV06556 Rat vanilloid rece
10	3051.5	76.2	761	20	AAV9790 Rat VRRP-1 (VR2) c
11	3036.5	75.8	727	20	AAV06560 Human vanilloid re

12	3036.5	75.8	727	20	AAV99798 Human VRRP-1 (VR2)
13	2240	55.9	436	21	AAV97359 Human VR-2 (altern
14	2230	55.7	554	21	AAV97360 Rat partial VR-2 p
15	1689	42.2	843	20	AAV06561 Chicken capsaicin
16	1689	42.2	843	20	AAV99799 Chicken VRI capsa
17	1652	41.3	838	20	AAV06555 Rat capsaicin rece
18	1652	41.3	838	20	AAV9789 Rat VRI capsaicin
19	1651.5	41.2	839	21	AAV97357 Human VR-1 protein
20	1648.5	41.2	839	21	AAV06478 Human vanilloid re
21	1644.5	41.1	839	20	AAV30155 A human vanilloid
22	1644.5	41.1	839	20	AAV06558 Human capsaicin re
23	1644.5	41.1	839	21	AAV32127 Human vanilloid re
24	1640.5	41.0	839	20	AAV30152 A human vanilloid
25	1638.5	40.9	839	20	AAV30153 A partial human va
26	1455	36.3	963	21	AAV06479 Human vanilloid re
27	1440	36.0	279	19	AAV74908 Human secreted pro
28	956.5	23.9	217	20	AAV29470 Human vanilloid re
29	637	15.9	725	22	AAU00412 Human calcium ion
30	635	15.9	732	22	AAU00413 Human calcium ion
31	634	15.8	725	22	AAV31595 Amino acid sequenc
32	607.5	15.2	727	22	AAV31596 Amino acid sequenc
33	482.5	12.1	451	22	AAU00414 Human calcium ion
34	274	6.8	57	20	AAV99793 Human T11251 amino
35	272	6.8	232	19	AAV5021 Human secreted pro
36	247	6.2	71	20	AAV9792 Rat VRI capsaicin
37	224.5	5.6	974	19	AAV55960 Human transient re
38	146	3.6	1095	20	AAV00931 Prostate tumour de
39	144.5	3.6	1104	21	AAV95437 Human calcium chan
40	140.5	3.5	1791	22	AAV20121 Human sodium chan
41	140	3.5	1214	16	AAV80097 Black widow spider
42	138.5	3.5	352	21	AAV11616 D. limicis ankyrin
43	138.5	3.5	1745	19	AAV70608 Full length ankyrin
44	138.5	3.5	1745	19	AAV6776 D. limicis ankyrin
45	138.5	3.5	1745	21	AAV11589 D. limicis ankyrin

#### ALIGNMENTS

RESULT 1	
AAV29469	AAV29469 standard; Protein: 764 AA.
XX	XX
AC	AAV29469;
XX	XX
DT	08-OCT-1999 (first entry)
XX	XX
DE	Human vanilloid receptor homologue VANILREP2.
XX	XX
KW	Human; vanilloid receptor homologue; VANILREP2; polymorphic variant;
KW	PVP-1; therapy: diagnosis: chronic pain; neuropathic; postoperative;
KW	rheumatoid arthritis; neuralgia; algosia; nerve injury; ischemia;
KW	neurodegeneration; stroke; incontinence; inflammatory disorder.
XX	XX
OS	Homo sapiens.
XX	XX
PN	MO9937765-A1.
PD	29-JUL-1999.
XX	XX
PF	25-JAN-1999; 99WO-EP00420.
XX	XX
PR	20-JAN-1999; 99GB-0001209.
PR	27-JAN-1998; 98EP-0300549.
PR	26-OCT-1998; 98GB-0023421.
XX	XX
PA	(SMIK ) SMITHKLINE BEECHAM PLC.
XX	XX
PI	Davis JB, Duckworth DM, Hayes PD;
XX	XX
DR	WPI: 1999-479049/40.
DR	N-PSDB: AA207114.
XX	XX

PT New human vanilloid receptor homologues (VANILREP2)  
 XX  
 PS Claim 4; Page 30-32; 47pp; English.

CC The present sequence represents a human vanilloid receptor homologue,  
 CC designated VANILREP2. VANILREP2 can be used to diagnose disease or  
 CC susceptibility to disease related to expression or activity of  
 CC VANILREP2 polypeptides. VANILREP2 may be used to treat diseases  
 CC including pain, (for example chronic, neuropathic, postoperative,  
 CC rheumatoid arthritis), neuralgia, algosia, nerve injury, ischaemia,  
 CC neurodegeneration, stroke, incontinence, and inflammatory disorders.  
 CC  
 XX  
 SO Sequence 764 AA:

Query Match 100.0%; Score 4004; DB 20; Length 764;  
 Best Local Similarity 100.0%; Pred. No. 0;  
 Matches 764; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MTSPPSSPVFRLTLDGQEDGSEADRGKLDGSGLPMESEOFQEDRRKFAPOIRVNLNY 60  
 DB 1 mtsppsspvfrietldgsgedsgadrgkldfgsglpmeesfggedckfapqirvnlly 60  
 QY 61 RKGTASQDPDRFDRDLFNAVSRGVPEDLAGLEPYLSKTSKYITDSEYTGSGTGKTC 120  
 DB 61 rkgtasqdpdrfdrdlfnasrvgpeditlaglepylsktskyltdeyegstgkctcl 120  
 QY 121 MKAVNLKDGYNACILPLQLQIDRSGNPOPLVNAOCTDDYRGHSAHLIAEKRSLOCVK 180  
 DB 121 mkavnlkdgynacilplqlqidrsgnpplvnaqctdyyrghsalhialekrslocvk 180  
 QY 181 LLVENGANVHARACGRFQOGCGTGFEGELPLSLACTKMDVSYLLENPHQASIDA 240  
 DB 181 llvenganvharaegrffqogcgctgfegelpslactkmdvsvyllenphqasida 240  
 QY 241 TDSOGNTVHAIYMTSDNSAEMIALVTSWYDGLLAGARLCTVOLEDIRNODITPLKL 300  
 DB 241 tdsogntvhaiymtsdinsaemialvtswydglagarlctvledirnoditplkl 300  
 QY 301 AAKEKEIEIFRHIILQREFSGLSHLRKFTEWCYGVRSVLYDLAVDSCEENSVLEIINF 360  
 DB 301 aakekeieifrhilqrefsglsghlrkftewcygvrvsvlydlavdsceensvleiaf 360  
 QY 361 HCKSPHRRHVVLEPUNKLQAKMDLIPKFLNLCNLIYFTTAVAYHOPTLKKQA 420  
 DB 361 hcksprrhrrvvlepnunklqakmdlipkflnlncliyfttavayhoptlkkqa 420  
 QY 421 PHLKAEVNSMILTGHIILIGGTYLLWQOLMYEMRRHVFIMISFIDSYFELLFQALL 480  
 DB 421 phlkaevnsmilgtghililggtyllwqolmyemrrhvfimisfidsyfellfqall 480  
 QY 481 TVSSQVLCFLAIEWLPLVLSALVGMNLXYTRGFQHTGIVSMIOKVIIRDLRFL 540  
 DB 481 tvssqvlcflaiewlplvlsalvgmnlxytrgfqhtgivsmiokvilrdlrfl 540  
 QY 541 IYLVFEGFAVALVLSQDPAWRPEAPPGDNATESVQPMEGDEGNGAQYRILEASLEL 600  
 DB 541 iylvfegfavalvlsqdpawrppeappgdnatesvqpmegdegngaqyrileaslel 600  
 QY 601 FKRTGMELAFQEDLHRGMVLLLLAVVLTITLLNMLIALMSEYVNSVATDSMSIW 660  
 DB 601 fkrtgmelafoedlhrgmvllllavvltitllnmlialmseyvnsvatdsmsiw 660  
 QY 661 KLOKAIIVLEMENGYWMCRRKORAGVMLTVGTRPGSPDERMCFRVEEVNMAWBOETPT 720  
 DB 661 klkaiisvlemengywmcrrkoragvmltvgtgtrpgspdermcfveevnmaswboetpt 720  
 QY 721 LCEDPSGAGVPTLEPVLASPPKEDDGASEENVVQOLQSN 764  
 DB 721 lcedpsgagvptlepvlasppkeddgaseenvvpqllqsn 764

RESULT 2

AAV06559  
 ID AAV06559 standard; Protein; 764 AA.  
 XX  
 AC AAV06559;  
 XX  
 DT 08-OCT-1999 (first entry)  
 XX  
 DE Human vanilloid receptor-related polypeptide 1 (VRP-1).  
 XX  
 KW Vanilloid receptor-related polypeptide 1; VRP-1; VR2;  
 KW capsaicin receptor; VR1; human; vanilloid; analgesic; pain;  
 KW inflammation; therapy; diagnosis.  
 XX  
 OS Homo sapiens.

PN W09937675-A1.  
 XX  
 PD 29-JUL-1999.  
 XX  
 XX 22-JAN-1999; 99WO-US01418.  
 XX  
 PR 22-JAN-1998; 98US-0072151.  
 XX  
 PA (RBC ) UNIV CALIFORNIA.  
 XX  
 PI Brake AJ, Caterina M, Julius DJ;  
 XX  
 DR WPI: 1999-469113/39.  
 DR N-PSDB: AAX87492.

PT New isolated capsaicin receptor polypeptide and related nucleic acid  
 PT - useful for detecting vanilloid compounds, identifying modulators,  
 PT and in diagnosis or treatment of e.g. pain and inflammation

PS Claim 4; Page 110-112; 120pp; English.

CC The present sequence represents human vanilloid receptor-related  
 CC polypeptide 1 (VRP-1 or VR2), as deduced from a cDNA clone (see  
 CC AAX87492) isolated from human CCRF-CEM cells. VRP-1 is an  
 CC example of a capsaicin receptor-related polypeptide of the  
 CC invention. It is not activated by capsaicin or heat, but may  
 CC interact with the novel capsaicin receptor VR1 (see AAV06558). The  
 CC invention provides vanilloid receptor polypeptides and  
 CC polynucleotides, including capsaicin receptor-related polypeptides  
 CC and polynucleotides, as well as expression vectors, host cells and  
 CC transgenic animals. It also provides a method of using such  
 CC receptors to identify vanilloid compounds in natural products or  
 CC to screen candidate compounds that modulate capsaicin receptor  
 CC function for use as analgesics (vanilloid analogues, therapeutic  
 CC antibodies, antisense oligonucleotides, capsaicin receptor-encoding  
 CC polynucleotides for gene therapy), flavour-enhancing agents, etc.  
 CC Capsaicin receptor-related polypeptides and specific antibodies can  
 CC also be used for the diagnosis and treatment of human disease and  
 CC pain.

XX  
 SO Sequence 764 AA:

Query Match 100.0%; Score 4004; DB 20; Length 764;  
 Best Local Similarity 100.0%; Pred. No. 0;  
 Matches 764; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MTSPPSSPVFRLTLDGQEDGSEADRGKLDGSGLPMESEOFQEDRRKFAPOIRVNLNY 60  
 DB 1 mtsppsspvfrietldgsgedsgadrgkldfgsglpmeesfggedckfapqirvnlly 60  
 QY 61 RKGTASQDPDRFDRDLFNAVSRGVPEDLAGLEPYLSKTSKYITDSEYTGSGTGKTC 120  
 DB 61 rkgtasqdpdrfdrdlfnasrvgpeditlaglepylsktskyltdeyegstgkctcl 120  
 QY 121 MKAVNLKDGYNACILPLQLQIDRSGNPOPLVNAOCTDDYRGHSAHLIAEKRSLOCVK 180  
 DB 121 mkavnlkdgynacilplqlqidrsgnpplvnaqctdyyrghsalhialekrslocvk 180

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QY 181 LIVENGANVHARACGRFQKGGCTCFYFGEPLPLSLACTKQMDVSYLLENPHOPASIOA 240
Db 181 livenGANvharacgrffqkggctcfyfgeplslactkqmdvsvyllenphopasIga 240
QY 241 TDSQGNVLAHALVMSIDNSAENIALVTSMDGLDAGARLCPVTOLEDIRNLDDTLPLKL 300
Db 241 tdsqgnvLAhalvmsidnsaenialvtsmdgllagarlcpvtvledirnlqdtlplkl 300
QY 301 AAKEKIKELFRILLQREFSGLSLSRKFTWCYGPVRVSLVDLAVSDCEENSULEITAF 360
Db 301 aakegkikelfrillqrefsglslsrkftwcypvrsvlydlaavsdceensuleiaf 360
QY 361 HCKSHRRRMVLEPLNKLQAKMDLLPKFELFLNLIYFETFAVAVHOPTEKQAA 420
Db 361 hckshrrrmvleplnklqakmdlipkfflnllymfetfavayhoptekqaa 420
QY 421 PHLKAEGNSMLTGHILLGGIYLVGLVQWYEMRRHVFETWISPIDYFELLFQALL 480
Db 421 phlkaevnsmltghilllggiylvgqlwyfwrhvfetwispidyfellffqall 480
QY 481 TVVSOVLCEFLAEWYLPILVSLVGLVNLVYTRGFQHTGYSVMIOKVILRDLRLRL 540
Db 481 tvvsvlceflaewylpilvslvglmnlvyrtrgfqhtgysvmiokvilrdlrlrl 540
QY 541 IYLVLEFGFAVALVLSQEAHREAPRTGPNATESVQPMEGQDEGNGAQYRGILBASLEL 600
Db 541 iylvlefgfaavalvlsqeahreaprtgpnatesvqpmegdegnagqyrgilbaslel 600
QY 601 FKFTTGKSELAFQEOJLHRGMVLLLLAYVLTLYLLMLTALMSEFVNSVANDWSMTW 660
Db 601 fkfttgkseLafqEojlhrGMvllllayvltlyllmltalmsefvnsvandsmtw 660
QY 661 KLOKASIVLEMENGYWMCRRKORAGVMLTVGTRKPDGSPDERKCFVEEENNASWQTLPT 720
Db 661 klqkasiVlemengywmcrrkqragvmltvgtkrpdgspderkcftveeennaswqtlpt 720
QY 721 LCEDPSGAGVPRTLENPVLASPKDEDEGASEENVVQVLQSN 764
Db 721 lcedpsgagvprtleNPVLaspkdedgaseenvvpvllqsn 764

RESULT 3
AAY97358
ID AAY97358 standard; Protein: 764 AA.
AC AAY97358;
XX
XX 05-SEP-2000 (first entry)
XX
XX Human VR-2 protein.
XX
XX VR-2: human; vanilloid receptor; nociceptor; pain signalling;
XX hyperalgesia; musculoskeletal disorder; neuropathic pain;
XX chromosome 17p11-12; gene therapy.
XX
XX Homo sapiens.
XX
XX Key location/Qualifiers
XX Modified-site 2..5
XX /note= "cGMP-dependent protein kinase
XX phosphorylation site"
XX Domain 162..194
XX /label= ankryin_repeat_domain
XX Modified-site 169..174
XX /note= "myristoylation site"
XX Modified-site 171..174
XX /note= "N-glycosylation site"
XX Modified-site 192..195
XX /note= "N-glycosylation site"
XX Domain 208..243
XX /label= ankryin_repeat_domain
XX Domain 293..328

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FT Modified-site /label= ankryin_repeat_domain
FT 368..371
FT /note= "cGMP-dependent protein kinase
FT phosphorylation site"
FT Modified-site 368..375
FT /note= "tyrosine kinase phosphorylation site"
FT Domain 391..410
FT /label= transmembrane_domain
FT Domain 431..448
FT /label= transmembrane_domain
FT Domain 459..476
FT /label= transmembrane_domain
FT Domain 486..508
FT /label= transmembrane_domain
FT Modified-site 499..502
FT /note= "cGMP-dependent protein kinase
FT phosphorylation site"
FT Domain 538..556
FT /label= transmembrane_domain
FT Modified-site 604..607
FT /note= "N-glycosylation site"
FT Domain 621..645
FT /label= transmembrane_domain
FT Modified-site 622..628
FT /note= "tyrosine kinase phosphorylation site"
FT Modified-site 749..752
FT /note= "N-glycosylation site"
FT Modified-site 765..770
FT /note= "myristoylation site"

W0200029577-A1.
PD 25-MAY-2000.
PE 12-NOV-1999; 99WO-US26701.
XX
XX 13-NOV-1998; 98US-0108322.
PR 28-DEC-1998; 98US-0114078.
PR 26-FEB-1999; 99US-0258633.
PR 19-OCT-1999; 99US-0421134.
XX
XX (MILL-) MILLENNIUM PHARM INC.
XX
XX Curtis RAD;
XX
XX WPI: 2000-387790/33.
DR N-PSDB; AAA30254.
XX
XX New capsacin/vanilloid receptor polynucleotides and polypeptides, used
XX PT to modulate pain signalling mechanisms
XX PS
XX Claim 11; Fig 2; 183pp; English.
XX
XX The present sequence is the protein sequence for human
XX capsacin/vanilloid receptor VR-2, which is involved in pain signalling.
XX The coding sequence was isolated by searching a heart cDNA library for
XX genes encoding novel receptors of the capsacin/vanilloid family, and has
XX been shown to be located at chromosome 17p11-12. This region has been
XX associated with myasthenia gravis, Smith-Magenis syndrome, CORDS,
XX Cone-rod dystrophy, choroidal dystrophy, central areolar and retinal cone
XX dystrophy, and it is possible that the protein may be used to treat or
XX diagnose these disorders. In addition, the gene, protein and its
XX antibodies can be used to diagnose and treat hyperalgesia, inflammation,
XX infection, ischemia, joint pain, tooth pain, headaches, pain associated
XX with surgery or neuropathic pain, possibly via the use of gene therapy.
XX
XX Sequence 764 AA:

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Query Match 100.0%; Score 4004; DB 21; Length 764;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 764; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY 1 MTSPPSSPVFRLETLIDGGEDGSEADRGKIDFGSGLPMESESFOGEDRKKFAPOIRVNLNY 60
DB 1 mtsppsspvfrletldgggedgseadrgkldfgsglpmesgfgedrkkfapqirvnlly 60
QY 61 RKGTASQDPNRRFDRDLFNAVSRGVPEDLAGLEPYLSKTSKYLTDSEYTGSTGKTCL 120
DB 61 rkgtasqdpnrfrdrlnfnavsrgvpedlaglepylsktskyltdseytgsygtcl 120
QY 121 MKAVNLKDGVNACILPLQLIDRDSGNPOPLVNAOCTDYYRGHSAHLAIKRSIQCYK 180
DB 121 mkavnlkdgvnaciilplqlidrdsgnpgplvnaqctdyyrgshalhaiekrsiqcyk 180
QY 181 LIVENGANVHARACGRFPGKGGCTFYEGELPLSLAACKTQMDVSYLLENPHQASIOA 240
DB 181 livenGANVHARACGRFPGKGGCTFYEGELPLSLAACKTQMDVSYLLENPHQASIOA 240
QY 241 TDSQNTVLAHALVMTSDNSAENIALVTSWYDGLQAGARLCTVQLEDIRNLQDITPLKL 300
DB 241 tdsqntvLAHALVMTSDNSAENIALVTSWYDGLQAGARLCTVQLEDIRNLQDITPLKL 300
QY 301 AAKEGKIEIFRHIILQREFSGLSLSRKFTFEMCYGVRVSYLVLASVDSCEENSVEIITAF 360
DB 301 aakegkieifrhilqrefsglslsrktfemcygvrvsylvlasvdsceensveitaf 360
QY 361 HCKSPHRRHVVLEPLNKLQAKMDLLPKFFLNLCLNIYFIFTAVAYHOPITLKKQAA 420
DB 361 hckspHRRHVVLEPLNKLQAKMDLLPKFFLNLCLNIYFIFTAVAYHOPITLKKQAA 420
QY 421 PHLKAEVGNMILTGHIILGGLYLVGOLWYFMRHFWIISFDSYFELLFPQALL 480
DB 421 phlkAEVGNMILTGHIILGGLYLVGOLWYFMRHFWIISFDSYFELLFPQALL 480
QY 481 TVVSOVLCEFLAIEWLPLLVSAVLGMLNLVYTRGFQHTGYSVMIOKVILRDLIRFL 540
DB 481 tvvsovlCEFLAIEWLPLLVSAVLGMLNLVYTRGFQHTGYSVMIOKVILRDLIRFL 540
QY 541 IYLVFLFGFAVALVLSQEWAPREAPTGPNATESVQPMGEDEGNGAOYRGITLASEL 600
DB 541 iylvflfgfaVALVLSQEWAPREAPTGPNATESVQPMGEDEGNGAOYRGITLASEL 600
QY 601 FKFTIGMGLAFOEOLHFRGWLILLALLVLLTYILLNMLALMSEYVNSVATDSWSIW 660
DB 601 fkftigMGLAFOEOLHFRGWLILLALLVLLTYILLNMLALMSEYVNSVATDSWSIW 660
QY 661 KLOKASIVLEMENGYWMCCKKQACAGVMTVGTKPPGSPDERMCFRVEENWMAWMEOTLPT 720
DB 661 klokASIVLEMENGYWMCCKKQACAGVMTVGTKPPGSPDERMCFRVEENWMAWMEOTLPT 720
QY 721 ICEPPSAGVPTLENPVLASPPKEDGASBENYVPVQLQSN 764
DB 721 iceppsAGVPTLENPVLASPPKEDGASBENYVPVQLQSN 764

RESULT 4
AAB35622
ID AAB35622 standard: Protein: 764 AA.
AC AAB35622:
XX
XX 14-FEB-2001 (first entry)
DE Human vanilloid receptor like receptor protein.
KW VR-L: vanilloid receptor-like receptor; pain; infection; allergy;
KW mechanical injury; lymphoid tissue; human.
XX
XX Homo sapiens.
XX GB2346882-A.
XX 23-AUG-2000.
XX PD
XX 02-DEC-1999; 99GB-0028566.

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XX 08-DEC-1998; 98GB-0027016.
PR (MERI ) MERCK SHARP & DOHME LTD.
XX
XX Bonnett TP.
XX WPI: 2001-064250/08.
XX N-PSDB: AAC60297.
XX
XX New polynucleotide encoding human vanilloid receptor-like receptor for
XX diagnosing and treating pain, infections, allergies, and cancers
XX
XX Claim 1: Fig 1: 36pp: English.
XX
XX The present invention relates to the human vanilloid receptor-like
XX receptor. This receptor may be used for diagnosing or treating
XX conditions associated with altered vanilloid receptor-like (VR-L)
XX receptor expression. It may also be used to treat abnormal conditions
XX associated with pain. Conditions or diseases that can be diagnosed or
XX treated include viral, bacterial and fungal infections, allergic
XX responses, mechanical injury associated with trauma, hereditary
XX diseases, lymphoma or carcinoma, or other conditions which activate
XX the genes of the lymphoid tissues.
XX
XX Sequence 764 AA:
SQ
Query Match 100.0%; Score 4004; DB 22; Length 764;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 764; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MTSPPSSPVFRLETLIDGGEDGSEADRGKIDFGSGLPMESESFOGEDRKKFAPOIRVNLNY 60
DB 1 mtsppsspvfrletldgggedgseadrgkldfgsglpmesgfgedrkkfapqirvnlly 60
QY 61 RKGTASQDPNRRFDRDLFNAVSRGVPEDLAGLEPYLSKTSKYLTDSEYTGSTGKTCL 120
DB 61 rkgtasqdpnrfrdrlnfnavsrgvpedlaglepylsktskyltdseytgsygtcl 120
QY 121 MKAVNLKDGVNACILPLQLIDRDSGNPOPLVNAOCTDYYRGHSAHLAIKRSIQCYK 180
DB 121 mkavnlkdgvnaciilplqlidrdsgnpgplvnaqctdyyrgshalhaiekrsiqcyk 180
QY 181 LIVENGANVHARACGRFPGKGGCTFYEGELPLSLAACKTQMDVSYLLENPHQASIOA 240
DB 181 livenGANVHARACGRFPGKGGCTFYEGELPLSLAACKTQMDVSYLLENPHQASIOA 240
QY 241 TDSQNTVLAHALVMTSDNSAENIALVTSWYDGLQAGARLCTVQLEDIRNLQDITPLKL 300
DB 241 tdsqntvLAHALVMTSDNSAENIALVTSWYDGLQAGARLCTVQLEDIRNLQDITPLKL 300
QY 301 AAKEGKIEIFRHIILQREFSGLSLSRKFTFEMCYGVRVSYLVLASVDSCEENSVEIITAF 360
DB 301 aakegkieifrhilqrefsglslsrktfemcygvrvsylvlasvdsceensveitaf 360
QY 361 HCKSPHRRHVVLEPLNKLQAKMDLLPKFFLNLCLNIYFIFTAVAYHOPITLKKQAA 420
DB 361 hckspHRRHVVLEPLNKLQAKMDLLPKFFLNLCLNIYFIFTAVAYHOPITLKKQAA 420
QY 421 PHLKAEVGNMILTGHIILGGLYLVGOLWYFMRHFWIISFDSYFELLFPQALL 480
DB 421 phlkAEVGNMILTGHIILGGLYLVGOLWYFMRHFWIISFDSYFELLFPQALL 480
QY 481 TVVSOVLCEFLAIEWLPLLVSAVLGMLNLVYTRGFQHTGYSVMIOKVILRDLIRFL 540
DB 481 tvvsovlCEFLAIEWLPLLVSAVLGMLNLVYTRGFQHTGYSVMIOKVILRDLIRFL 540
QY 541 IYLVFLFGFAVALVLSQEWAPREAPTGPNATESVQPMGEDEGNGAOYRGITLASEL 600
DB 541 iylvflfgfaVALVLSQEWAPREAPTGPNATESVQPMGEDEGNGAOYRGITLASEL 600
QY 601 FKFTIGMGLAFOEOLHFRGWLILLALLVLLTYILLNMLALMSEYVNSVATDSWSIW 660

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|||||  
Db 601 kftlmgelaqeglhfrgmwlllllayllytlllmliatsetvnsvaldswwsiw 660  
QY 661 KLOKATSVLEMENGYWMCRRKORAGVMTVGRKPGSPDERMCFRVEEVNMA5NEGTLTPT 720  
Db 661 kltqkatsvlemenygwwckkqragvmltvgrtkpdspsdercfrveevnmaswegtlpt 720  
QY 721 LCEDEPSGAGVPTLTLENPVLASPKKEDDGASENYPVOLLOSN 764  
Db 721 lcedpsgagvptltlenpvlaspkdeddgaseenyvpyqlisqn 764  
RESULT 5  
AAAY42308  
ID AAAY42308 standard; Protein: 763 AA.  
XX  
AC AAAY42308;  
XX  
D7 06-DEC-1999 (first entry)  
XX  
DE Human vanilloid receptor-like cation channel (hVRCC).  
XX  
KW Vanilloid; capsaicin; neuron; selective; calcium; cation; receptor; pain;  
KW Inflammation; brain disease; cancer; autoimmune disorder.  
XX  
OS Homo sapiens.  
XX  
FH Key Location/Qualifiers  
FT Misc-difference 5 /note="Optionally Phe in an allelic variant"  
FT Misc-difference 417..418 /note="Optionally there is an insertion of a Gln residue  
FT in an allelic variant"  
XX  
PM W09946377-A2.  
XX  
PD 16-SEP-1999.  
XX  
PE 10-MAR-1999; 99WO-EP01550.  
XX  
PR 11-MAR-1998; 98EP-0400565.  
XX  
PA (SNFI ) SANOFI-SYNTHELABO.  
XX  
PI Partiseti M, Renard S;  
XX  
DR WPI: 1999-571722/48.  
DR N-PSDB: AA42308.  
XX  
PT New receptor-like channel polypeptide and polynucleotide useful for  
PT prevention and treatment of cancer, autoimmune disease, brain disease  
PT and ulcers -  
XX  
PS Claim 12; Page 15; 50pp; English.  
XX  
CC This sequence represents a human vanilloid receptor-like cation channel  
CC (hVRCC). This channel is activated by vanilloids such as capsaicin  
CC and resiniferatoxin, and is expressed in a variety of tissues,  
CC particularly in nervous tissue such as the amygdala, substantia nigra,  
CC thalamus, dorsal root ganglia and spinal cord. Vanilloids are natural  
CC compounds which are known to trigger cation permeability in the  
CC peripheral neurons involved in transmission of noxious stimuli (e.g.,  
CC mechanical, chemical or thermal). A recently discovered rat  
CC vanilloid-gated cation channel, which is highly expressed in dorsal root  
CC ganglia, has six putative transmembrane domains, giving it significant  
CC structural homology with "store-operated" calcium channels, and is highly  
CC selective for calcium ions. hVRCC and nucleotides encoding it can be used  
CC in prevention, diagnosis or therapy of disorders that may be associated  
CC with an excess or deficiency of hVRCC. Disorders detected or treated  
CC using hVRCC proteins, nucleotides or antagonists include chronic  
CC inflammation, acute and chronic pain, brain diseases, abnormal  
CC proliferation and cancer, ulcers, autoimmune diseases, control of viscera  
CC innervated by the dorsal root ganglia neurons, to mimic or antagonise

CC effect of endogenous neurotransmitters and hormones, and to inhibit graft  
CC rejection by promoting immunosuppression. Nucleotide sequences encoding  
CC hVRCC are also useful for chromosome localisation.  
XX  
SQ Sequence 763 AA:  
Query Match 99.6%; Score 3988.5; DB 20; Length 763;  
Best Local Similarity 99.9%; Pred No. 0;  
Matches 763; Conservative 0; Mismatches 0; Indels 1; Gaps 1:  
QY 1 MTPSSSPVFRLETTLDGGOEDSEADRGKLDGSGGLPME5QFOGDRKFPADIRVNLNY 60  
Db 1 mtpssspvfrletldggedgseadrgklldgsgglpmesqfgedrklfapdirnlnly 60  
QY 61 RKGTGASOPDRNRPDRLPFNAVSRGVPRDLAGLPYLSKTSKYLTDSCTBGSSTKTL 120  
Db 61 rkgtgasopdrnfrpdrlpfnavsrgvprdlaglpelylsktskyltdseytsgstktcl 120  
QY 121 MKAVLNLKQGVNACILPLIOTIDRDSGNPQPLVNAOCTDDYRGRSHALVATKRSIQCYK 180  
Db 121 mkavlnlkqgvnaciilplliotidsgnpplvnaoctddyrgshalvatekrsiqcyk 180  
QY 181 LIVENGANVHARACGRFFQKGOCTCFYFGEPLSLACTKMDVSYLLBNHPQASLQA 240  
Db 181 livenganvharcgrffqkgqctcfyfgeplslactkmdvsvyllbnhpqaslda 240  
QY 241 TDSQNTVLAHALVMSDNSAENALVTSMTDGLQAGARLCPVVOLEDRINODLTPKL 300  
Db 241 tdsqntvhalvmsdsnaenalvtsmtdglqagarlcpvvoledrlnodltpkl 300  
QY 301 AKKEGKIEIFRHILOREFGSLHSRKFTMEWCYGPVRSYLDASVDSCENSVLEIIF 360  
Db 301 aakegkieifrhilorefgslhsrkftmecygpvrsvyldasvdsceensvleief 360  
QY 361 HCKSPRHRRMYVLEPLNLKLOAKMDLLIKFFLNLPLNLIYFIFTAVAVHOPTLKQAA 420  
Db 361 hcksprrhrrmyvleplnlkloakmdllikfflnlplnllyfiftavavhoptlkrqa 420  
QY 421 PHLKAEGVNSMLTGHITLLGSIYLVQGLWTFMRHRHFWISFSDSFEILLFOALL 480  
Db 421 phlkaegvnsmltghitllgsiylvqglwtfmrhrhfwisfddsfeillfoall 480  
QY 481 TTV5QVLCFLATEWYPLVLSALVIGMLNLVYTRGFOHGTGYVIOGYTLRDLRFL 540  
Db 481 ttv5qvlcflatewypvlvsalvigmlnlvyrtrgfohgtgyviogytlrdlrfll 540  
QY 541 IYLVLFGEFVALVLSQEAWRPEAPTGNATESVQPMGEOEDEGNGAQRGLLEASLEL 600  
Db 540 iylvlfgefvalvlsqeawrpeaptgnatesvqpmggedegngaqrglleaslel 600  
QY 601 FKFTTGMGELAFQEOQLHFRGMVLLLLAYVLLTYILLNMLTALMSEYVNSVATDSWSTW 660  
Db 601 kfttgmgelafqeqlhfrgmwlllllayllytlllmliatsetvnsvaldswwsiw 660  
QY 661 KLOKATSVLEMENGYWMCRRKORAGVMTVGRKPGSPDERMCFRVEEVNMA5NEGTLTPT 720  
Db 661 kltqkatsvlemenygwwckkqragvmltvgrtkpdspsdercfrveevnmaswegtlpt 719  
QY 721 LCEDEPSGAGVPTLTLENPVLASPKKEDDGASENYPVOLLOSN 764  
Db 721 lcedpsgagvptltlenpvlaspkdeddgaseenyvpyqlisqn 763  
RESULT 6  
AAAY29471  
ID AAAY29471 standard; Protein: 763 AA.  
XX  
AC AAAY29471;  
XX  
D7 08-OCT-1999 (first entry)  
XX  
DE Human vanilloid receptor homologue VANILREP2 polymorphic variant PVP-1.

```

XX Human: vanilloid receptor homologue; VANILREP2: polymorphic variant:
KM PVP-1; therapy: diagnosis; chronic pain; neuropathic; postoperative;
KM Rheumatoid arthritis; neuralgia; algisia; nerve injury; ischemia;
KM neurodegeneration; stroke; incontinence; inflammatory disorder.
XX
OS Homo sapiens.
PN WO937765-A1.
XX
PD 29-JUL-1999.
XX
PF 25-JAN-1999; 99WO-EP00420.
XX
PR 20-JAN-1999; 99GB-0001209.
PR 27-JAN-1998; 98EP-0300549.
PR 26-OCT-1998; 98GB-0023421.
XX
PA (SMIR ) SMITHKLINE BEECHAM PLC.
XX
PI Davis JB, Duckworth DM, Hayes PD:
XX
DR WPT: 1999-479049/40.
XX
DR N-PSDB: AA207116.
XX
PT New human vanilloid receptor homologues (VANILREP2)
XX
PS Claim 4: Page 35-37; 47pp; English.
XX
CC The present sequence represents a human vanilloid receptor homologue
CC VANILREP2 polymorphic variant PVP-1. VANILREP2 can be used to diagnose
CC disease or susceptibility to disease related to expression or activity
CC of VANILREP2 polypeptides. VANILREP2 may be used to treat diseases
CC including pain, (for example chronic, neuropathic, postoperative,
CC rheumatoid arthritis), neuralgia, algisia, nerve injury, ischaemia,
CC neurodegeneration, stroke, incontinence, and inflammatory disorders.
XX
SQ Sequence 763 AA:

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DB 420 pnhkaevgsmltghlllllggyllvgqlwyfwrhbfvstsfdsyfellflfllgall 479
QY 481 TVVSQVLCFLAIEWLPPLVLSALVGLWNLVYTRGFGHTGIYSWVTKVYLLRDLRPLL 540
DB 480 twsvglcflatalewyipllvlsalvlgwlllytrtgrfghtgyswnlqkvlldrlrlfll 539
QY 541 IYLVFLFGFAVALVLSLSOAMRPEAPTGNATESVOPMGOEDEGNAGAYRGITLSEASLEL 600
DB 540 IYLVFLFGFAVALVLSLSGAWRPEAPTGNATESVQPMGEGEGNGAYRGITLSEASLEL 599
QY 601 FKRTTGMCELAFOEQLHFRGMVLLLLAYVLLTYILLNMLALMSETVNSVATDSWSIM 660
DB 600 fktlmgelaifgeqhhfrgmwlllllyvlltylllllmllaimeetvnsvaldswwsiw 659
QY 661 KIQAISVLEEMENGYWMCCKKQKQAGVMTLVGTRPDGSPDERKCFRVEEVNMAWMEQTLPT 720
DB 660 kIQkalsvleemengywwcckkqragvmtlvgtkpdgsperwcfrveevnmasweqlpt 719
QY 721 LCEDPGAGVPTLENVPLASPPKEDGASEENVYPVOLQSN 764
DB 720 lcepsgagvptltenvplaspkededgaseenvypvqlqsn 763

RESULT 7
AA84834
ID AA84834 standard: Protein; 764 AA.
XX
AC AA84834:
XX
DT 08-AUG-2000 (first entry)
XX
XX
XX Amino acid sequence of a vanilloid receptor-like (VR-L) protein.
XX
XX Cation channel protein; vanilloid receptor-like 1 protein; VR-L;
KM noxious heat; pain; inflammation; tissue damage; nociception;
KM gene therapy; sensory neuron; immune system; analgesic; immunomodulatory;
KM neuromodulatory.
XX
OS Homo sapiens.
XX
XX
XX Key Location/Qualifiers
XX
XX FT Misc-difference 149 /note= "Gly encoded by CAG"
XX FT Region 162..193 /note= "ankyrin-like repeat"
XX FT Misc-difference 200 /note= "ankyrin-like repeat"
XX FT Region 208..240 /note= "Lys encoded by AAT"
XX FT Region 293..323 /note= "ankyrin-like repeat"
XX FT Region 391..410 /note= "ankyrin-like repeat"
XX FT Domain 438..453 /note= "transmembrane domain 1"
XX FT Domain 468..489 /note= "transmembrane domain 2"
XX FT Domain 501..527 /note= "transmembrane domain 3"
XX FT Domain 535..554 /note= "transmembrane domain 4"
XX FT Domain 560 /note= "transmembrane domain 5"
XX FT Misc-difference 560 /note= "Thr encoded by GCT"
XX FT Region 587..608 /note= "possible pore loop"
XX FT Domain 619..645 /note= "transmembrane domain 6"
XX FT Misc-difference 667 /note= "unspecified amino acid encoded by TNT"
XX
XX WO200022121-A2.

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PD 20-APR-2000.  
 XX 08-OCT-1999; 99WO-GB03348.  
 XX 09-OCT-1998; 98GB-0022124.  
 PR (UNLO ) UNIV COLLEGE LONDON.  
 PA Garcia R, Wood JN, England S;  
 XX MPI: 2000-317978/27.  
 DR N-PSDB; AAA14874.  
 XX Novel non-selective cation channel protein and nucleotides useful as  
 PT screening agents and in gene therapy of disorders associated with  
 PT sensory neurons and leucocytes such as pain, autoimmune disorders and  
 PT leukemia  
 XX Claim 2; Fig 3A; 55pp; English.  
 PS The present sequence represents a non-selective cation channel protein,  
 XX designated vanilloid receptor-like 1 (VR-L). The protein is obtained  
 CC from human T lymphocytes. The VR-L protein is activated by noxious heat,  
 CC and is not capsaicin sensitive. VR-L is expressed in sensory neurons,  
 CC and is likely to play a role in mediating the pain and inflammation  
 CC accompanying tissue damage (nociception). The VR-L polynucleotide is  
 CC useful for influencing the electrophysiological and/or pharmacological  
 CC properties of a cell, and is also useful in the gene therapy treatment  
 CC of disorders associated with sensory neurons and/or cells of the immune  
 CC system and also for the preparation of a medicament for use in gene  
 CC therapy. The VR-L polynucleotides and polypeptides are useful for  
 CC identifying a substance with ion-channel modulating activity (such as  
 CC analgesics), or compounds which affect nociception, immunomodulatory  
 CC agents, neuromodulatory agents.  
 XX Sequence 764 AA:  
 SO

Query Match 98.4%; Score 3939; DB 21; Length 764;  
 Best Local Similarity 98.0%; Pred. No. 0;  
 Matches 749; Conservative 6; Mismatches 9; Indels 0; Gaps 0;

QY 1 MTPSSSPVFLRLETDGGEDEGSEADRGKLDGSGCLPWPESQFOGEGEDRKAFADIRNLTNY 60  
 DB 1 mtpssspvflrletldggedgseadrgkldfgsglppmesqfgedrkfaeqdivnlly 60  
 QY 61 RKGTASQDPDRFRDRDLFNAVSGVPEBDLAGLPEYLSKTSKYITDSEYTEGSGTKTCL 120  
 DB 61 rkgtasqdpdrfrdrdlfnvsvrgvpedlaglpeylsktskyltdseytegsctgkcl 120  
 QY 121 MKAVNLKDGVAACLTPLLOIDRDSGNPOPIVNACTDYYGHSALHATKRSKLCQVK 180  
 DB 121 mkavnlkdgvaacltplloidrdsngnppivnaqctdyyrghsalhalekrsklsqvk 180  
 QY 181 LLEVNGANVHARACGRFQKGGCTCFYFGEPLSLAACKQDVSYSLLENPHQASLOA 240  
 DB 181 llevenganvharaqrffqkggctcfyfgeplslaaactkqdvsvsllenphqasloa 240  
 QY 241 TDSQGNVYLHALVMSDSNAENIALVTSNYDGLQAGARLCTFVOLEDIRNLQDITPLKL 300  
 DB 241 tdsqgnvylhalvmsdsnaenialvtsnydglqagarlctfvolledirnlqditplkl 300  
 QY 301 AAKSEKIEFRHIIQRESGLSHSRKFTEMCYGPRYSIVDLAVSDCEENSVLEITAF 360  
 DB 301 aakekietfrhiiqretsglshtsrkftewcygprvsvldlavsdceensvleitaaf 360  
 QY 361 HCKSPHRRMNVVLEPINKLQAKMDLIPKFFLNFLCNLIYFIITAAVYHQPTLKKQAA 420  
 DB 361 hcksphrmrvvlepnklqakwdlppkfflnflcnliymfiftavayhqptlkkqaa 420  
 QY 421 PHKRAEVNSMLTGHITLLIGYLLVGLQWYFRRHVFVWISTDYSFELLFQALL 480  
 DB 421 phkraevnsmlltghitlllgyyllvgqlwyfwrhvfviwistdysfelfellfshal 480

QY 481 FVVSQVLCFLAEIEMYLPLLVSALVGLMNLTYTRGFOHTGITSVMIOKIVILRDLRFL 540  
 DB 481 fvsqvclcfleiemylpllvsalvglmnltytrgfohtgitsvmiokirvdlrlfl 540  
 QY 541 IYLVFLFCFAVALVLSQEWAPRPTGPNATESVQPMGQDEGNGAQRGLBASLEL 600  
 DB 541 iylvflfcfavalvlsqewaprptgpnatesvqpmgqdegngaqrglbaslel 600  
 QY 601 EFKTTGMGFLAFQEOHLFRGWLVLILLVLTITILLNMLIALMSEYNSVATDSWSIM 660  
 DB 601 ekfttgmglafqeo hlfrgwlvlillvltitillnmlialmseynsvatdswsim 660  
 QY 661 KQKKAISVLEMENGYWMCRRKORAGVNLTVGTRKPGSPDERKCFRVEENWASWETIPT 720  
 DB 661 kqkkaivlemengywmccrrkoragvnlvtvgtrkpgspderkcfveewnawswetipt 720  
 QY 721 ICDPSSGAGVPRPTLENPVLASPPKEDGASEENYVPVQLQSN 764  
 DB 721 icdpsgagvprptlenpvlasppekdedgaseenyvvpvqlqsn 764

RESULT 8  
 ID. AAY97364 standard; Protein: 630 AA.  
 AAY97364;  
 AC AAY97364;  
 DT 14-SEP-2000 (first entry)  
 XX Human VR-2 (alternate form) protein.  
 DE  
 XX VR-2; human; vanilloid receptor; nociceptor; pain signalling;  
 KM hyperalgesia; musculoskeletal disorder; neuropathic pain;  
 KM chromosome 17p11-12; gene therapy.  
 OS Homo sapiens.  
 XX  
 PN WO200029577-A1.  
 PD 25-MAY-2000.  
 XX  
 PF 12-NOV-1999; 99WO-US26701.  
 XX  
 PR 13-NOV-1998; 98US-0108322.  
 PR 28-DEC-1998; 98US-0114078.  
 PR 26-FEB-1999; 99US-0258633.  
 PR 19-OCT-1999; 99US-0421134.  
 PA (MILL-) MILLENNIUM PHARM INC.  
 XX  
 FI Curtis RAJ;  
 XX  
 DR MPI: 2000-387790/33.  
 DR N-PSDB; AAA30255.  
 PT New capsaicin/vanilloid receptor polynucleotides and polypeptides, used  
 PT to modulate pain signalling mechanisms  
 XX  
 PS Example 1; Fig 16; 183pp; English.  
 XX

The present sequence is the protein sequence for an alternate form of human capsaicin/vanilloid receptor VR-2, which is involved in pain signalling. The coding sequence was isolated by searching a heart cDNA library for genes encoding novel receptors of the capsaicin/vanilloid family, and has been shown to be located at chromosome 17p11-12. This region has been associated with myasthenia gravis, Smith-Magenis syndrome, CORD5, Cone-rod dystrophy, Choroidal dystrophy, central areolar and retinal cone dystrophy, and it is possible that the protein may be used to treat or diagnose these disorders. In addition, the gene, protein and its antibodies can be used to diagnose and treat hyperalgesia, inflammation, infection, ischaemia, joint pain, tooth pain, headaches, pain associated with surgery or neuropathic pain,

CC possibly via the use of gene therapy.  
 XX  
 SQ Sequence 630 AA:

Query Match 81.4%; Score 3258; DB 21; Length 630;  
 Best Local Similarity 82.5%; Pred. No. 2e-301;  
 Matches 630; Conservative 0; Mismatches 0; Indels 134; Gaps 1;

```

QY 1 MTPSSSPVFRLETLIDGGEDGSEADRCGLDPMSQFOGDRKFAQIRNLNY 60
DB 1 mtpssspvfrlecltldggdgseadrkldtgsqfipmesqfgedrkapqirnlly 60
QY 61 RKGTGASQPPNRPDRRLFNASRGVPEDLAGLEPYLSKTKYLTDSEYTGSTGTC 120
DB 61 rtgtgasqgppnrdrrlfnasrgvpedlaglepylsktskyltdseytgsstgctcl 120
QY 121 MKAVLNKDVNACILPILQIDRDSGNPQPLVNAOCTDDYRGHSALHAIERKSIQCVK 180
DB 121 mkavlnlkdvnacilpildrdsqnpqlvnaqctddyrgshalhahiekrslqcvk 180
QY 181 LLVENGANVHARACGRFGKGGTCFEGELPLSLAACKQMDVSYLLENPHQASLGA 240
DB 181 llvengannvharaqgrfkgggctcfegelpslsaaackqmdvsvyllenphqasla 240
QY 241 TDSQNTVLHALVMSIDNSAENIALVTSMDGLQAGARLCTVOLEDIRNLQDLPLKL 300
DB 241 tdsqntvlhalvmsidsnsaenialvtsmdgllqagarlctvledirnlqdlplkl 300
QY 301 AKKEGKIEFRHILQREFSGLSHLSKFTKWCYGVRSVLYDLASVDSCENSVLEINAF 360
DB 301 akegkiefrhiloqrefsglskftkwcgyrvsvlydlasvdsceensvleinaf 360
QY 361 HKKSPRHMMVLEPRLNKLQAKMDLIPKFLNFCNLTIVETFAVAVYHOPTLKKOAA 420
DB 361 hksprhmmvleprlnklqakmdlipkflnfcnltyvetfavaavyhoptlkkga 420
QY 421 PHLKAEVNSMILTGHIILLLGIVLVGOLWFWRHVFIIWISFIDSYFEILFEQALL 480
DB 421 phlkaevnsmiltghillllgivlvgolwfwrrhvfiiwisdysyfeilfefqall 480
QY 481 TVVSOVLCFLALIEWPLPLVLSALVGLMNLVYTRGFQITGYSWVIOQVILRDLRFL 540
DB 481 tvvsovlcflaliewplplvlsalvglmnlvlytrgfqitgyswviqovilrdlrfl 540
QY 541 IYLVFLGFAVALVLSQAMRPEAPTGNATESVQPMGEDEGNGAQYRGILFEASLEI 600
DB 541 iylvflgfavalvlsqamrpeaptgnatesvqpmgedegngaqyrgilfeaslei 600
QY 601 FKFTIGMGLAFQEODLHFRGMVLLLLAYVLLTYILLNMLALMSETVNSVATDSWSIM 660
DB 601 fkftigmglafqeo dlhfrgmvl llllayvlltyillnmlalmse tvnsvatdswsim 660
QY 661 KIQKAISYLEMENGWYMKRKORAGVMTLVGTRKPDGSPDERKCFRVEEVNMAWMEQTLP 720
DB 661 kiokaisylemengwymrkorkoragvmtlvgtkrpdgspderkcfreveevnmaswmeqtlp 720
QY 721 LCEDPGAGVPTLENPLVLPKEDGASENNVYPVQLLOSN 764
DB 721 lcepdgagvptlenplvlpkedgaseennvypvqlloqsn 764
QY 587 lcepdgagvptlenplvlpkedgaseennvypvqlloqsn 630

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RESULT 9  
 AAY06556  
 ID AAY06556 standard: Protein; 761 AA.  
 XX  
 AC AAY06556;  
 XX  
 DT 08-OCT-1999 (first entry)  
 XX  
 DE Rat vanilloid receptor-related polypeptide 1 (VRRP-1).  
 XX  
 KW Vanilloid receptor-related polypeptide 1; VRRP-1; VR2;

KW capsaicin receptor; VR1; rat; vanilloid; analgesic; pain;  
 KM inflammation; therapy; diagnosis.  
 XX  
 XX Rattus rattus.  
 OS  
 PN W09937675-A1.  
 XX  
 XX  
 PD 29-JUL-1999.  
 XX  
 PF 22-JAN-1999; 99WO-US01418.  
 XX  
 PR 22-JAN-1998; 980US-0072151.  
 XX  
 PA (REGC ) UNIV CALIFORNIA.  
 PI Brake AJ, Caterina M, Julius DJ;  
 DR WPI, 1999-469113/39.  
 DR N-PSDB: AAX87478.  
 XX

PT New isolated capsaicin receptor polypeptide and related nucleic acid  
 PT - useful for detecting vanilloid compounds, identifying modulators,  
 and in diagnosis or treatment of e.g. pain and inflammation

Claim 4: Page 81-83; 120pp; English.

The present sequence represents rat vanilloid receptor-related polypeptide 1 (VRRP-1 or VR2), as deduced from a cDNA clone (see AAX87478) isolated from a rat brain cDNA library. VRRP-1 is an example of a capsaicin receptor-related polypeptide of the invention. It is not activated by capsaicin or heat, but may interact with the novel capsaicin receptor VR1 (see AAY06555). It shows 49% identity with rat VR1. The invention provides vanilloid receptor polypeptides and polynucleotides, including capsaicin receptor-related polypeptides and polynucleotides, as well as expression vectors, host cells and transgenic animals. It also provides a method of using such receptors to identify vanilloid compounds in natural products or to screen candidate compounds that modulate capsaicin receptor function for use as analgesics (vanilloid analogues, therapeutic antibodies, antisense oligonucleotides, capsaicin receptor-encoding polynucleotides for gene therapy), flavour-enhancing agents, etc. Capsaicin receptor-related polypeptides and specific antibodies can also be used for the diagnosis and treatment of human disease and pain.

Sequence 761 AA:

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Query Match 76.2%; Score 3051.5; DB 20; Length 761;
Best Local Similarity 77.7%; Pred. No. 1.3e-281;
Matches 598; Conservative 62; Mismatches 93; Indels 17; Gaps 7;

QY 1 MTPSSSPVFRLETLIDGGEDGSEADRCGLDPMSQFOGDRKFAQIRNLNY 60
DB 1 mtpssspvfrlecltldggdgseadrkldtgsqfipmesqfgedrkapqirnlly 60
QY 61 RKGTGASQPPNRPDRRLFNASRGVPEDLAGLEPYLSKTKYLTDSEYTGSTGTC 115
DB 61 rkgtgasqgppnrdrrlfnasrgvpedlaglepylsktskyltdseytgsstgctcl 115
QY 116 GRTCLMKAVLNKDVNACILPILQIDRDSGNPQPLVNAOCTDDYRGHSALHAIERKSI 175
DB 116 grtclmkavlnlkdvnacilpildrdsqnpqlvnaqctddyrgshalhahiekrsl 175
QY 176 LOCVKILVENGANVHARACGRFGKGGTCFEGELPLSLAACKQMDVSYLLENPHQ 235
DB 176 locvkilvengannvharaqgrfkgggctcfegelpslsaaackqmdvsvyllenphq 235
QY 236 ASLQATDSQNTVLHALVMSIDNSAENIALVTSMDGLQAGARLCTVOLEDIRNLQDL 295
DB 236 aslqatdsqntvlhalvmsidsnsaenialvtsmdgllqagarlctvledirnlqdl 295
QY 296 TPPLKAKEGKIEFRHILQREFSG-LSHLSRKFTKWCYGVRSVLYDLASVDSCENSV 354

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|||||
Db 297 tpklkaekgkiefthilqrefsgpyqplsrckflewcygprvrslydlsvdsweknsav 356
OY 355 LEIAPHCKSPHRHRVLEPINKLQAKWDLLIPKFEFLNLCNLTYMIFFAVAHYHOT 414
OY 357 lcliafckspnhrmvnlepinkllqekwdrfvsrffinfacylvmfiflvayhyps 416
OY 415 LKQAPHLKAEVGNMMLTGHLILGGLVYLVOGLMYFMRHRVFTWISFDSYEELF 474
Db 417 lqcpaipskafgeemllghnllllyllllyllllyllllyllllyllllyllllylll 476
OY 475 LFQALLTVVSOVLCFLAIEWYPLVLSALVLCMLNLYTRGFORTGIRSVMIQVILRD 534
Db 477 llqalltvlsqvlrfmetewyiplvlslvlgwlnllytrgfhgnylsvmlqkvllrd 536
OY 535 LRFLLIYVLFEGFVALVLSLSQEMRPEAPGPMATESVOPMEQDEGNAOYRGTL 594
Db 537 llrflllyvlffgfaivalslrearspkapednsvtveqplvygeee--papyrsll 594
OY 595 EASLELFKFTIGMGLAFQEOHLFRGMVLLLLAVVLLTYLLNLMLALMSETVSVAT 654
Db 595 dslelftktigmglafqefqrlfrgvylllllayvlllyvlllmlalmetvnhvad 654
OY 655 DSWSTWKLQKALSIVLEMENGYWMC--RKQKQAGVMLTVGTRPGSDPERMCFRVEEYNNAS 713
Db 655 nswstlwkllqkalsivlemengywwcrtkhregrlkvgtrgqgtdperwcfiveevnwaa 714
OY 714 WQOTLPTCEDPSGAGVPTLENPVLASPPKDEGASSENVPVOLLOS 763
Db 715 wktlptlcsdpsgplgnknpt---skpgknsaseedhlplqvlg 760

```

## RESULT 10

AAM99790

ID AAM99790 standard: Protein; 761 AA.

XX AAM99790:

DT 16-JUN-1999 (first entry)

DE Rat VRPP-1 (VR2) capsaicin receptor.

XX VR1: capsaicin receptor; VR2: VRPP-1; analgesic; diagnosis;

KW human disease: painful syndrome.

XX Rattus rattus.

OS W09909140-A1.

XX 25-FEB-1999.

PF 20-AUG-1998; 98WO-US17466.

XX 22-JAN-1998; 98US-0072151.

PR 20-AUG-1997; 97US-0915461.

XX (REBC ) UNIV CALIFORNIA.

PA Brake A, Caterina M, Julius DJ;

PI WPI: 1999-181023/15.

DR N-PSDB: AAX19730.

XX New capsaicin receptor polypeptide - useful for screening or

PT characterising capsaicin receptor-binding compounds

XX Claim 4: Page 78-79; 99pp; English.

XX The present sequence is an isolated capsaicin receptor polypeptide

CC (1). Capsaicin polypeptides are useful for identifying binding compounds

CC which affect cellular responses. Preferably this is for identifying a

CC compound that binds (1) and affects a cellular response associated with

CC capsaicin biological activity (e.g. intracellular calcium flux). The

CC polypeptides and host cells are useful for detecting a vanilloid  
 CC compound (an essential structural component of capsaicin) from natural  
 CC products by detecting an alteration of intracellular response associated  
 CC with capsaicin receptor activity, preferably an alteration of  
 CC intracellular calcium levels, and are useful for screening for compounds  
 CC for use in analgesics. Capsaicin receptor polypeptides and antibodies  
 CC are useful for diagnosis and treatment of human diseases and painful  
 CC syndromes. The transgenic mammals can be used to screen for capsaicin  
 CC receptor antagonists and agonists. Prior art methods for screening or  
 CC characterising new capsaicin receptor-binding compounds relied on assays  
 CC using sensory neurons in culture or in intact animals. The new  
 CC polypeptides provide a more sensitive screen.

Sequence 761 AA:

Query Match 76.2%; Score 3051.5; DB 20; Length 761;  
 Best Local Similarity 77.7%; Pred. No. 1.3e-281;  
 Matches 598; Conservative. 62; Mismatches 93; Indels 17; Gaps 7;

```

OY 1 MTSPPSPVFRLETLDDGCGEDSADRGKLDGSGLPMPESQFGCDKRFARQIRNLAY 60
Db 1 mtsasppafrletsqdeegnaevnkqyqe---ppmpespfqredrnspqikvnl 56
OY 61 ----RKGTGA-SOPDPNFRDRDLFNAGRGVPEDLAGEPEYLSKTSKYLTDSYTEGST 115
Db 57 ikrpknktsapqgepdrtdrlfsvsrgvpeeltgllaylrwnskyltcsaytegst 116
OY 116 GRTCLMKRAVLNKKDGVNACILPLLOIDRDSGNPQPLVNAQCTDDYVRGSHALIAEKRS 175
Db 117 gktclmkavlnldqgvnactimp||gldkdsnpkrlvnaqctdefygsalhialekrs 176
OY 176 LQCVKLIVNGANVHARACGRFFQKQCTCFYFGLRPLSLAQTQMDVSVLLENPHOP 235
Db 177 lqcvklivngadlvhracgrffqkqctcfyfgelplslactqwdvsvlylenphop 236
OY 236 ASLQATDSQGNVNLHNLVWISDNSAENIALVTSMYDGLQAGARLCTPQGLDIRNLQDL 295
Db 237 asleatdsqgnvnlhnlwlnadnspealsvlhmydglqmagarlcptqlaeishngl 296
OY 296 TPCLKLAKEGKLEIFRHILQREPSG-LSHLSRKFTWCYGPVRSVLYDLASVDSCEENS 354
Db 297 tpklkaekgkiefthilqrefsgpyqplsrckflewcygprvrslydlsvdsweknsav 356
OY 355 LEIAPHCKSPHRHRVLEPINKLQAKWDLLIPKFEFLNLCNLTYMIFFAVAHYHOT 414
Db 357 lcliafckspnhrmvnlepinkllqekwdrfvsrffinfacylvmfiflvayhyps 416
OY 415 LKQAPHLKAEVGNMMLTGHLILGGLVYLVOGLMYFMRHRVFTWISFDSYEELF 474
Db 417 lqcpaipskafgeemllghnllllyllllyllllyllllyllllyllllyllllylll 476
OY 475 LFQALLTVVSOVLCFLAIEWYPLVLSALVLCMLNLYTRGFORTGIRSVMIQVILRD 534
Db 477 llqalltvlsqvlrfmetewyiplvlslvlgwlnllytrgfhgnylsvmlqkvllrd 536
OY 535 LRFLLIYVLFEGFVALVLSLSQEMRPEAPGPMATESVOPMEQDEGNAOYRGTL 594
Db 537 llrflllyvlffgfaivalslrearspkapednsvtveqplvygeee--papyrsll 594
OY 595 EASLELFKFTIGMGLAFQEOHLFRGMVLLLLAVVLLTYLLNLMLALMSETVSVAT 654
Db 595 dslelftktigmglafqefqrlfrgvylllllayvlllyvlllmlalmetvnhvad 654
OY 655 DSWSTWKLQKALSIVLEMENGYWMC--RKQKQAGVMLTVGTRPGSDPERMCFRVEEYNNAS 713
Db 655 nswstlwkllqkalsivlemengywwcrtkhregrlkvgtrgqgtdperwcfiveevnwaa 714
OY 714 WQOTLPTCEDPSGAGVPTLENPVLASPPKDEGASSENVPVOLLOS 763
Db 715 wktlptlcsdpsgplgnknpt---skpgknsaseedhlplqvlg 760

```

RESULT 11  
AAV06560  
ID AAV06560 standard; Protein: 727 AA.  
XX  
AC AAV06560;  
XX  
DT 08-OCT-1999 (first entry)  
XX  
DE Human vanilloid receptor-related polypeptide 1 (VRRP-1).  
XX  
KM Vanilloid receptor-related polypeptide 1; VRRP-1; VR2;  
KM capsaicin receptor; VR1; human; vanilloid; analgesic; pain;  
KM inflammation; therapy; diagnosis.  
XX  
OS Homo sapiens.  
XX  
FH Key Location/Qualifiers  
FT Misc-difference 194..208  
FT /note= "unidentified residues"  
FT Misc-difference 308  
FT /note= "unidentified residue"  
FT Misc-difference 311  
FT /note= "unidentified residue"  
FT Misc-difference 343..368  
FT /note= "unidentified residues"  
FT Misc-difference 404  
FT /note= "unidentified residue"  
FT Misc-difference 460..474  
FT /note= "unidentified residues"  
FT Misc-difference 558  
FT /note= "unidentified residue"  
FT Misc-difference 608  
FT /note= "unidentified residue"  
XX  
PN MO9937675-A1.  
XX  
PD 29-JUL-1999.  
XX  
PE 22-JAN-1999; 99WO-US01418.  
XX  
PR 22-JAN-1999; 98US-0072151.  
XX  
PA (REGC ) UNIV CALIFORNIA.  
XX  
PI Brake AJ, Caterina M, Julius DJ;  
XX  
PS WPI; 1999-469113/39.  
XX  
XX  
XX The present, claimed sequence represents a human vanilloid receptor-  
XX related polypeptide 1 (VRRP-1 or VR2) sequence predicted from  
XX available EST sequences (see AAX97499-501). VRRP-1 (see also AAY06559)  
XX is an example of a capsaicin receptor-related polypeptide of the  
XX invention. It is not activated by capsaicin or heat, but may  
XX interact with the novel capsaicin receptor VR1 (see AAY06558). The  
XX invention provides capsaicin receptor and capsaicin receptor-  
XX related polypeptides and polynucleotides, as well as expression  
XX vectors, host cells and transgenic animals. It also provides a  
XX method of using such receptors to identify vanilloid compounds in  
XX natural products or to screen candidate compounds that modulate  
XX capsaicin receptor function for use as analgesics (vanilloid  
XX analogues, therapeutic antibodies, antisense oligonucleotides,  
XX capsaicin receptor-encoding polynucleotides for gene therapy),  
XX flavour-enhancing agents, etc. Capsaicin receptor-related  
XX polypeptides and specific antibodies can also be used for the  
XX diagnosis and treatment of human disease and pain.  
XX  
XX Sequence 727 AA:

Query Match 75.8%; Score 3036.5; DB 20; Length 727;  
Best Local Similarity 79.1%; Pred No. 3.1e-280;  
Matches 620; Conservative 5; Mismatches 82; Indels 77; Gaps 10;  
QY 1 MTPSSSPVFRLETTLDGGEDESEADRGKLDGSGLPPEPSOFOGERRKFAPIRVNLNY 60  
DB 1 mtpssspvfrletldggedgseadrgklldfsgslpmpesqggedrxfapdirvnly 60  
QY 61 RKGTGASQDPNRFDPDLFNNAVSRGVPPEDLAGLPYLSKTSKYLTDSYTBGSKTCL 120  
DB 61 rkgtgasqdpnrfdrdrifnavsrgvpedlaglpaysktskyltdseytbgstktcl 120  
QY 121 MKAVNLKDGVNACILPLQIDRDGSGNPQVLVNAOCTDYYRGHSALAHATEKRSLOQCYK 180  
DB 121 mkavnlkdgvnacilpllqidtdsgnpplvnaoetdyrghsalhatetkrsloqcyk 180  
QY 181 LIVENGANVHARACGRFPFGKGGTCFPGELPLSLAACKTQMDVSYLLBNPHQASLQA 240  
DB 181 livenGANVharacgrfPFKGGTcfPgeLPLsLaackTqMDvSYllbnPhqasLqa 240  
QY 241 TDSQNTVJHALVMSDNSAENIALVTSWYDGLQAGARLCPVQLEDIRNODLTPLKL 300  
DB 241 tdsqntvlhalvmsdsnaenialvtsmydgllqagarlcpvtqledirnlqdltpklk 300  
QY 301 AAKEGKIEIF-RHIL-QREFSGLS-HLSRKFTF-WCGVPRVSLVDASVDSCEENSVLE 356  
DB 301 aakegkief-rhil-qrefsgls-hlsrkfte-wcgvprvslvdasvdsceensvle 356  
QY 357 IIAFHCKSPRRRMVLEPLNKLQAKMDLIPKFLNLCNLIYVFIPTAVAYHQPILK 416  
DB 361 xxxxxxxxprdmrmvleplnklqakwdlipkfflnlcnlxyvfiptavaYhqpilK 420  
QY 417 KOAAPHLKAQVNSMLTGHILLGGLTYLVGQLMFEWRR-----HYF 460  
DB 421 kqaaphlkaevnsmlltghlllggyllyvgqkwkfwxxxxxxxkxfpgh-- 478  
QY 461 IMISFDSYFEILLFELQALLTVASQVLCFLAYEWYLPVLVSLVLGMLLVTYTRGFQHT 520  
DB 479 -----rvvpapacvca---gagllepalllywL-----pahrh 509  
QY 521 GIYSWAIQKVIILRDLLRFLLIYLVFLGFAVALVLSQEAAMPPEAPTGNATESVQPMEG 580  
DB 510 qchd-----pealvlsiqd-wrpeaptgnatesvqpmeg 543  
QY 581 QEDEGNGAQRGLLEASLELFKFTTGMGLAFOBOLHFRGMVLLLLAVLLTYILLNM 640  
DB 544 gedegngagyrllxaslelfkftlmgelaftqqlhfrgmVllllayvlltyllnm 603  
QY 641 LIALMSETVNSVATDSWSIWKLQKATSVLEMENGYWMCRRKORAGVNLVGTKPDGSPDE 700  
DB 604 lialselvnsvaldswslwklqkatsvlemengywccrkqagvnlvgtkpdgspde 663  
QY 701 RMCFRVEEVNMAWEDQTLPTLCEDEPSGAGVPTLENPVLASPPKEDDGAASENVYPVL 760  
DB 664 rmcfrveevnmaswqtlptlcedpsgagvptlenpvlaspkdedgaseenvypvl 723  
QY 761 LOSN 764  
DB 724 lqsn 727  
RESULT 12  
AAW9798  
ID AAW9798 standard; Protein: 727 AA.  
XX  
XX AAW9798;  
XX  
XX 16-JUN-1999 (first entry)  
XX  
XX Human VRRP-1 (VR2) capsaicin receptor.  
XX  
XX

KW VR1: capsaicin receptor; VR2: VRRP-1; analgesic; diagnosis;  
 KM human disease; painful syndrome.  
 XX Homo sapiens.  
 OS WO9909140-A1.  
 XX PN  
 XX PD 25-FEB-1999.  
 XX PF 20-AUG-1998; 98WO-US17466.  
 XX PR 22-JAN-1998; 98US-0072151.  
 XX PR 20-AUG-1997; 97US-0915461.  
 XX PA (REGC ) UNIV CALIFORNIA.  
 PI Brake A, Caterina M, Julius DJ;  
 XX WPI: 1999-181023/15.  
 DR WPI: 1999-181023/15.  
 XX  
 PT New capsaicin receptor polypeptide - useful for screening or  
 PT characterising capsaicin receptor-binding compounds  
 XX  
 PS Claim 4: Page 86-88; 99pp; English.  
 XX  
 CC The present sequence is an isolated capsaicin receptor polypeptide  
 CC (1). Capsaicin polypeptides are useful for identifying binding compounds  
 CC which affect cellular responses. Preferably this is for identifying a  
 CC compound that binds (1) and affects a cellular response associated with  
 CC capsaicin biological activity (e.g. intracellular calcium flux). The  
 CC polypeptides and host cells are useful for detecting a vanilloid  
 CC compound (an essential structural component of capsaicin) from natural  
 CC products by detecting an alteration of intracellular response associated  
 CC with capsaicin receptor activity, preferably an alteration of  
 CC intracellular calcium levels, and are useful for screening for compounds  
 CC for use in analgesics. Capsaicin receptor polypeptides and antibodies  
 CC are useful for diagnosis and treatment of human diseases and painful  
 CC syndromes. The transgenic mammals can be used to screen for capsaicin  
 CC receptor antagonists and agonists. Prior art methods for screening or  
 CC characterising new capsaicin receptor-binding compounds relied on assays  
 CC using sensory neurons in culture or in intact animals. The new  
 CC polypeptides provide a more sensitive screen.  
 CC  
 XX  
 SQ Sequence 727 AA:

Query Match 75.8%; Score 3036.5; DB 20; Length 727;  
 Best Local Similarity 79.1%; Pred. No. 3.1e-280;  
 Matches 620; Conservative 5; Mismatches 82; Indels 77; Gaps 10;

QY 1 MTPSSSPVFRLTLDGQEDGSEADRGKLDGSGLLPMESEOGEDRKFAPQIVNINLY 60  
 DB 1 mtpssspvfrieltldgqgedgseadrgkldgsgllpmesefggedtkfapqivniny 60  
 QY 61 RKGTGASGPPDPRFDRDLFNAVSRGVPEDLAGLPEVLSKTSKYLTDESEYTGSGTKTCL 120  
 DB 61 rkgtgasgppdrfrdrdlfnavsrgvpedlaaglepevlsktskyltdeesyegsgtkcl 120  
 QY 121 MKAVLNLKDGYNACLTPLQLDIDRDSGNPQPLVNAOCTDYYRNGSHALHAIKRSLLQCVK 180  
 DB 121 mkavlnlkdgynacilplqlidirdsgnpqlvnaoctdyyrghshalhalekrsllqcvk 180  
 QY 181 LLVENGAMVHARACGRFPOKGGCTFYFGEPLPLSLAACKTKMDVVSYLENPHOPASIOA 240  
 DB 181 llvengamvharaagrfpogkgtcfyfgeplplsllaacktkmdvvsyllepnghpasioa 240  
 QY 241 TDSOGNFTVLHALLVMSDSNAENIALVTSMDGLAQAGARLCPVOLIEDIRNLQDLTPPLKL 300  
 DB 241 tdsognftvlhalmvmsdsnaenialvtsmdgllqagarlcpvtgledirnlqdltpplkl 300  
 QY 301 AAKBEKILIF-RHIL-QREFSGLS-HLSRKITE-WCYGPVRSLSYDLASVDSCEANSYLE 356  
 DB 301 aakekixlxfxrhilaaqglsfslkppfrkitewlmqpvrvvxxxxxxxxxxxxxxxx 360

QY 357 IIAFHCKSPHRRHNVVLEPLNKLLOAKNDLLPKFPLNLCULIWFITFAVAHQPTIK 416  
 DB 361 xxxxxxxxxxxpdrhmvleplnklloakndllpkfplnlnclxymfilitavayhptik 420  
 QY 417 KOAPHLKAEGVNSMLTCHILILGIGYLLVGOLWYFWR-----HVF 460  
 DB 421 kgaephikaevgnsmllghlililgigyllvgqkwkfxxxxxxxxxxxxxxxpgh-- 478  
 QY 461 IWISFTDYFEILFLFQALLVVSQVLCFLAEWYLPPLVSLVGLWMLLYTRGFQHT 520  
 DB 479 -----rvpapaacvca---gaglaeaplllytwl-----pahrl 509  
 QY 521 GIYSWMIQVILRDLRLFLILYVLFVFGFAVALVLSQAMPEPAPTGNATESVOPMGC 580  
 DB 510 gchd-----pealvslsqd-wrpeapcpnatesvqpmeg 543  
 QY 581 QDEGNGAQYRGILEASLELFEFTIGMGELEFQEOLEHFGWVLLLLAVLLTYILLNM 640  
 DB 544 qdegnagayrgilxaslelffftlmgelafeqdhfrgmvlililayvlltyililnm 603  
 QY 641 LIALMSEYVNSVATDSWSIWKLOKAI SVLEMENGTWCKRKORAGVMTVGTPDGSPE 700  
 DB 604 lialsetvnsvatdswsiwklikaisvlemengywwcrkkragvmltvgtkpdgspe 663  
 QY 701 RMCFFVEEVNMAWMSEOTLPTLCEDPSGAGVPTLENPVLPASPKDEGASPEENVVPOL 760  
 DB 664 rmcfrveevnmaswqtlptlcedpsgagvptlenpvlpaspkdedgaseenvvpvl 723  
 QY 761 IQSN 764  
 DB 724 lqsn 727

RESULT 13  
 ID AAY97359 standard; Protein: 436 AA.  
 XX AAY97359;  
 AC AAY97359;  
 XX 05-SEP-2000 (first entry)  
 DT  
 XX Human VR-2 (alternate form) partial protein.  
 DE  
 XX VR-2: human; vanilloid receptor; nociceptor; pain signalling;  
 KM hyperalgesia; musculoskeletal disorder; neuropathic pain;  
 KM chromosome 1/p11-12; gene therapy.  
 OS Homo sapiens.  
 XX  
 XX WO200029577-A1.  
 PN 25-MAY-2000.  
 PD  
 XX 12-NOV-1999; 99WO-US26701.  
 PF  
 XX 13-NOV-1998; 98US-0108322.  
 PR 28-DEC-1998; 98US-0114078.  
 PR 26-FEB-1999; 99US-0258633.  
 PR 19-OCT-1999; 99US-0421134.  
 XX  
 XX (MILL-) MILLENNIUM PHARM INC.  
 XX  
 XX Curtis RAJ;  
 PI WPI: 2000-387790/33.  
 DR N-PSDB: AAY97359.  
 DR  
 PT New capsaicin/vanilloid receptor polynucleotides and polypeptides, used  
 PT to modulate pain signalling mechanisms  
 XX  
 PS Claim 11: Fig 3; 183pp; English.  
 XX

CC The present sequence is the partial sequence for an alternate form of  
 CC human capsacin/vanilloid receptor VR-2, which is involved in pain  
 CC signalling. The coding sequence was isolated by searching a heart  
 CC cDNA library for genes encoding novel receptors of the  
 CC capsacin/vanilloid family, and has been shown to be located at  
 CC chromosome 17p11-12. This region has been associated with myasthenia  
 CC gravis, Smith-Magenis syndrome, COR5, Cone-rod dystrophy, choroidal  
 CC dystrophy, central areolar and retinal cone dystrophy, and it is possible  
 CC that the protein may be used to treat or diagnose these disorders. In  
 CC addition, the gene, protein and its antibodies can be used to diagnose  
 CC and treat hyperalgesia, inflammation, infection, ischaemia, joint pain,  
 CC tooth pain, headaches, pain associated with surgery or neuropathic pain,  
 CC possibly via the use of gene therapy.

CC Sequence 436 AA:

Query Match 55.9%; Score 2240; DB 21; Length 436;  
 Best Local Similarity 76.5%; Pred. No. 1.1e-204;  
 Matches 436; Conservative 0; Mismatches 0; Indels 134; Gaps 1;

OY 195 GREFGKGGTCYFPELPISTACTKQMDVSYLLENPHQASIQATDSQGNVTLHALVM 254  
 DB 1 gfrtqkgqctcytgeipstlaackqwdvsvyllempqpslqatdsqgnltvhalvm 60  
 OY 255 ISDNSAENIALVTSWYDGLAQAGARLCPTVQLEDIRNLQDLTPKLAAKEGKIEIFRHIL 314  
 DB 61 lsdnsaenialvtsmgdglqagarlcpvtqledirnlqdltpklaaegkietfrhl 120  
 OY 315 QREFGSLHSKRFTEWCYGPVRSILYDLASVDSCEENSVLEITAFHCKSPRRHRVYLE 374  
 DB 121 qreifslhskrftewcypvrsilydlasvdsceensvleitafrhcksprhrvmvle 180  
 OY 375 PLNKLQAKMDLIRKFLNFCNLTYMFIPTAVAVYHOPTEKKQAPHLKAEVNSMLLT 434  
 DB 181 plnklqakmdlirpklfnfcnltymfipfavayhptlkkqaapnlkaevnsmllt 240  
 OY 435 GHILLGCIYLLVQSLWFMWRHVFWSIFDSYFEILFLRQALLTVVSOVLCEFLATEW 494  
 DB 241 ghilllgciyllvqslwfmwrhvfwsifdsyfeilflrqalltvvsovlcfalew 300  
 OY 495 YPLPLVSAVLGMLNLVYTRGFORTGISVMIQKIVLRDLRPLLIYVFLRFAVALV 554  
 DB 301 yplplvsavlglmnlvyytrgforgtgisvmiokivlrldlrplliyvflrfavaly 335  
 OY 555 SLSQEAMRPEAPTGNATESVQPMEGDEGNGAQYRGILFASLELFFKFTIGMELAFQE 614  
 DB 336 ----- 335  
 OY 615 QLHFGWVLLLLAVVLLTYILLNMLIALMSETVNSVATDSWSIMKLOKAISVLEMENG 674  
 DB 336 -----katsvlemeng 346  
 OY 675 YWMCKKQKAGVNLTVGTRKPDGSPDERMCFRVEEYNNMASMEOTLPTICEBPGACVPRTL 734  
 DB 347 ywmckkkqagvnlvgtkrpdgspdermcfrrveeynnmaswegtlpticebpgavprtl 406  
 OY 735 ENPVLASPKKEDGASENVYVOLLQSN 764  
 DB 407 enpvlaspkkedgaseenvyvpvqlsqn 436

RESULT 14  
 AAY97360  
 ID AAY97360 standard; Protein: 554 AA.

XX AC AAY97360;  
 XX DT 05-SEP-2000 (first entry)  
 XX DE Rat partial VR-2 protein.  
 XX VR-2; rat; vanilloid receptor; nociceptor; pain signalling;

KW hyperalgesia; musculoskeletal disorder; neuropathic pain;  
 KW gene therapy.

OS Rattus sp.

PN WO2000029577-A1.

PD 25-MAY-2000.

PF 12-NOV-1999; 99WO-US26701.

PR 13-NOV-1998; 98US-0108322.

PR 28-DEC-1998; 98US-0114078.

PR 26-FEB-1999; 99US-0258633.

PR 19-OCT-1999; 99US-0421134.

PA (MILL-) MILLENNIUM PHARM INC.

PI Curtiss RAD;

DR WPI: 2000-387790/33.

XX N-PSDB: AAA30256.

PT New capsacin/vanilloid receptor polynucleotides and polypeptides, used

PS to modulate pain signalling mechanisms

XX Claim 11; Fig 4; 183pp; English.

CC The present sequence is the protein sequence for the rat  
 CC capsacin/vanilloid receptor VR-2, which is involved in pain signalling.  
 CC The coding sequence was isolated by searching a dorsal root ganglion  
 CC library for genes encoding novel receptors of the capsacin/vanilloid  
 CC family. The human version of this gene is found at chromosome 17p11-12, a  
 CC region which has been associated with myasthenia gravis, Smith-Magenis  
 CC syndrome, COR5, Cone-rod dystrophy, choroidal dystrophy, central areolar  
 CC and retinal cone dystrophy, and it is possible that the human protein may  
 CC be used to treat or diagnose these disorders. In addition, the human  
 CC gene, protein and its antibodies can be used to diagnose and treat  
 CC hyperalgesia, inflammation, infection, ischaemia, joint pain, tooth pain,  
 CC headaches, pain associated with surgery or neuropathic pain, possibly via  
 CC the use of gene therapy.

XX Sequence 554 AA:

Query Match 55.7%; Score 2230; DB 21; Length 554;  
 Best Local Similarity 79.0%; Pred. No. 1.4e-203;  
 Matches 437; Conservative 42; Mismatches 66; Indels 8; Gaps 4;

OY 213 LSLACTKQMDVSYLLENPHQASIQATDSQGNVTLHALVMISDNSAENIALVTSWYD 272  
 DB 7 lsjaactkwadvtylllenphqpslaeatdsignltvhalvmladnspensalvthmydg 66  
 OY 273 LLOAGARLCPTVQLEDIRNLQDLTPKLAAKEGKIEIFRHILQREFG-LSLSKRFTEW 331  
 DB 67 llqmagarlcpvtqleesinhqgltpklkaakegkietfrhlqrefigpypqpslkrflew 126  
 OY 332 CYGPVRSILYDLASVDSCEENSVLEITAFHCKSPRRHRVYLEPLNKLQAKMDLIRK 391  
 DB 127 cygpvrsilydlasvdsceensvleitafrhcksprhrvmvleplnklqakmdlirkrf 186  
 OY 392 PLNKLQAKMDLIRKFLNFCNLTYMFIPTAVAVYHOPTEKKQAPHLKAEVNSMLLTG 451  
 DB 187 plnklqakmdlirpklfnfcnltymfipfavayhptlkkqaapnlkaevnsmlltghl 246  
 OY 452 WYFWRHVFWSIFDSYFEILFLRQALLTVVSOVLCEFLATEWYPLPLVSAVLGMLNL 511  
 DB 247 wyfwrhvfwsifdsyfeilflrqalltvvsovlcfalewyplplvsavlglmnl 306  
 OY 512 YTRGFORTGISVMIQKIVLRDLRPLLIYVFLRFAVALVLSQEAMRPEAPTGN 571  
 DB 307 ytrgforgtgisvmiokivlrldlrplliyvflrfavalylsqeamrpeaptgn 366

[illegible]

Search completed: July 18, 2001, 15:58:43  
Job time: 302 sec

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